

# Multimedia Systems

## Lecture – 37

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# Multimedia Conferencing

- It is the live connection between two or more remote parties over the internet through audio and/or visual medium.
- **Video conferencing** is a type of online meeting where two or more people engage in a live audio-visual call. With a strong internet connection, the participants can see, hear, and talk to each other in real time, no matter where in the world they are.
- Video conferencing brings people working from different places together in a virtual meeting room. To make that possible, we'll need:
  - A stable internet connection
  - A video display device (laptop, desktop monitor, or a television screen)
  - A computer or conference phone
  - Other peripherals (webcam, microphone, headset, speaker, etc.)
  - Video conferencing software

## **Types of video conferencing**

### **1. Point-to-point conferencing:**

In point-to-point video conferencing, there are only two participants communicating from different locations in real time.

e.g: One-on-one customer support, Job Interviews

### **2. Multipoint conferencing**

Multipoint video conferencing involves three or more participants; that's why it's also called "group video conferencing".

e.g: Team meetings, Webinars

# How does video conferencing work?

- Video conferencing is powered by VoIP, the technology that makes voice communications over the internet possible. In order to transfer audio and video signals between two locations, VoIP relies on special algorithms called **codecs** (coder-decoder).

## **Data compression (coding)**

- Imagine an ongoing video meeting. The camera captures analog video signals and, when someone speaks, the microphone captures their audio signals. VoIP turns these signals into data packets for the internet to understand and for the transfer to begin.

## **Data transfer and decompression (decoding)**

- The packets of data travel over the internet. When they reach their destination, they change back into analog video and audio signals for the attendees on the other side to see and hear.

- Conferencing solutions typically come with echo cancellation to eliminate sound delays. This way, the audio and video remain in sync.
- Depending on the provider you choose, you'll find that there are numerous other features that make video conferencing such a powerful business tool. Some features are
  - **Screen sharing**
  - **Chat box**
  - **File sharing**
  - **Video call recording**
  - **Noise cancellation**

# Video on Demand (VOD)

- **Video on demand (VOD)** is a media distribution system that allows users to access videos without a traditional video playback device and the constraints of a typical static broadcasting schedule.
- VOD, or video-on-demand, is any content distribution platform that **gives viewers the ability to choose when, where, and how they view media.**
- Because VOD is streamed via the internet, it doesn't rely on cable or satellite connections like traditional broadcast television. If you have enough bandwidth, you can watch!
- This allows users to find and watch pre-recorded streaming content using any internet-enabled device.

- Video-on-demand has 3 core advantages. It allows viewers to:
  - **Watch at any time.** Users can play content whenever they want. Unlike “linear” TV programming, which only broadcasts in real-time, VOD doesn’t rely on a set schedule.
  - **Control what they watch:** Users have more opportunities to pick and choose what they watch, compared to traditional TV scheduling.
  - **Use media controls:** Users can play, pause, rewind, fast forward, and completely control how they watch content. This way, they’ll never miss anything important.

# How VOD Works?

- To deliver a video on demand, the video is first converted into a digital format and stored on a video server. It is then compressed and transmitted to the viewer via broadband or cable.
- After reaching its destination, the video is decoded and decompressed via a ***set-top box*** and stored on a video server in the viewer's device.
- The viewer can then watch the video instantly with the ability to control its speed and other (play, stop) features.



## How Does VOD Makes Money?

Providers of VOD usually create impactful video on demand content to make money.

## Different Types Of VOD Models To Choose

### **1.TVOD Or Transactional VOD:**

- The transactional video on demand is based on a pay-per-view monetization model and best suited for the most popular videos with small video libraries. Here, the viewers purchase or go for digital renting for the specific content they want to watch.
- For example, buying full seasons or individual episodes of your favorite tv shows through Amazon Prime

## **SVOD Or Subscription VOD**

- The subscription video on demand is the most popular monetization model for varied content creators in order to broadcast with large video libraries. Here, the viewers subscribe to a video service for a certain period of time (weekly, monthly, yearly) to access its content.
- E.g: Netflix, Amazon Prime

## **AVOD (Advertising Video-On-Demand)**

- AVOD, or Advertising Video-On-Demand, is essentially “free” for viewers because there’s no up-front cost to watch.
- AVOD revenue comes from businesses paying to advertise with short commercials throughout your videos.

# Key Issues faced by VOD

Despite of the promise, the prime challenges that VoD platforms today face are :-

- **Content Acquisition** - Original content will always be the gamechanger for any VoD service provider. e.g. HBO and Game of Thrones
- **Bandwidth Issues** - Slow internet isn't helping a good VoD service. Uncapped broadband, faster internet lanes and cheaper internet plans could boost video streaming business anywhere. e.g. Google Fibre and Kansas City
- **Platform Accessibility** - Needless to say that video streaming across platforms can be tricky when the hardware is not sold around.
- **Rentals & Pricing** - Expensive content costs lead to expensive rentals and sorry, nobody's paying too much for VoD if they get the same on a DVR from Cable TV. Programming costs and marketing costs need to be managed too.